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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/631,965	08/01/2003	Shibin Hu	4293-4	2524

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EXAMINER	
ANTHONY, JOSEPH DAVID	
ART UNIT	**PAPER NUMBER**
1714	

DATE MAILED: 12/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/631,965	HU, SHIBIN	
	Examiner	Art Unit	
	Joseph D. Anthony	1714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08/01/03 as a Preliminary Amendment*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 15 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claim is directed towards "Uses of a fuel oil additive" which is non-statutory subject matter.

Claim Objections

2. Claims 10 and 25 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Said claims do not further limit the independent claims from which they depended on because the independent claims already require the actual presence of oil-soluble metal salts of organic acids.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-30 as submitted with the preliminary amendment of 8/1/03 are full of problems that make them indefinite.

In independent claim 1 the word "for-mula" is misspelled. Claim 1 is indefinite because it is not known how a saturated or unsaturated fatty acid or polybasic carboxylic acid can have a carbon number of between "C_1-C_{40}". A fatty acid by definition must have at least 4 carbon atoms in a chain, see Hawley's Condensed Chemical Dictionary 14th edition, page 484. Claim 1 is also indefinite because it is unclear how the listed "alkylphenol" is considered to be a carboxylic acid.

Claims 2-3 have many of the same problems as claim 1 has.

In claim 4, the word "unsatu-rated" is misspelled.

Claims 4-9, 18-24, and 27 are indefinite because they all use the phrase "the said". The problem here is that the term "said" means –the--, such that the claims are being read as stating –the the--.

Claims 5-9, and 20-24 are all deemed to be indefinite in regards to the connection between the phrase "and the corresponding cation . . ." and the listed metal species. It seems that applicant is trying to set forth the oxidation sate of the previously listed metal species. Such should be done in a far more clear way

that connects them together unlike the present wording which makes it seems that the listed metals are somehow distinct from the "corresponding cation".

Claim 6 is indefinite because the listed metal species are not alkali-earth metals.

Claims 7, 9, and 20 are indefinite because they misuse the word "or" to separate species members when it should only be used at the end of the list not in the middle of the species list.

Claims 9 and 21-24 all contain misspelled words/species members that need to be corrected.

Independent claim 16 is indefinite for the same reasons independent claim 1 is indefinite.

Claim 28 is indefinite because of the phrase "fuel oil product". How does the "fuel oil product" differ or correspond to the "fuel oil additive" of independent claim 1? Claim 28 is further indefinite due to the phrase "is add,".

All other dependent claims are being rejected here because they are dependent on a rejected base claim.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-6, 9-21 and 24-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Andress U.S. Patent Number 2,851,417.

Andress teaches improved petroleum fractions, such as gasolines, fuels and lubricating oils. More particularly it relates to a new class of multi-functional additives for such fractions and to a method for their preparation. The said additives are complex metal alkoxy salts of organic acids, see abstract, column 1, line 65 to column 2, line 51 and column 3, lines 13-46. Specific examples of such organic acid metal salts are set forth in column 3, lines 68 to column 4, line 7. Applicant's claims are deemed to be anticipated over the examples, Tables 1-IV and column 3, line 68 to column 4, line 11.

8. Claims 1-6, 10-20 and 25-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Sandy et al. U.S. Patent Number 2,935,974 or Kissa U.S. Patent Number 3,013,869.

Sandy et al teach a hydrocarbon fuel for spark ignition internal combustion engines containing from about 0.05 gram to about 50 grams per gallon of a lithium salt of a secondary carboxylic acid wherein said carboxylic acid contains

from 4 to 18 carbon atoms, see abstract, column 2, lines 4-40, and column 5, lines 29-62. Applicant's claims are deemed to be anticipated over the Examples.

Kissa teaches new chemical compositions and particularly to new and valuable hydrocarbon fuels for spark-ignited internal combustion engines. The present invention is particularly directed to a method for putting in solution in liquid hydrocarbons lithium salts of branched chain carboxylic acids. It has been found that the lithium salts of branched chain carboxylic acids improve the antiknock characteristics of gasolines, see abstract, column 1, line 45 to column 2, line 15, and column 3, lines 1-7. Applicant's claims are deemed to be anticipated over the examples, especially see examples 1-3, and 11-17.

9. Claims 1-2, 4, 9-17, 21, and 24-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Orelup U.S. Patent Number 2,097,773.

Orelup teaches stabilized colored gasoline. Examples of stabilizing agents found suitable for such a purpose are the metal salts of fatty acid compounds and metal resin compounds such as aluminum palmitate, aluminum stearate, magnesium oleate, magnesium stearate, magnesium resinate, magnesium palmitate, zinc oleate, zinc stearate, calcium stearate, and calcium oleate, see abstract and column 1, lines 26-32. Applicant's claims are deemed to be anticipated over column 1, lines 26-32 and the Example in column 1, lines 43-53.

10. Claims 1-8, 10-20, 22-23, and 25-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Hawkins et al. U.S. Patent Number 5,449,387.

Hawkins et al teach novel cerium (IV) oxidic compounds, well suited as catalysts, e.g., for the clean combustion of hydrocarbon fuels and for the "drying" of paint compositions, each Ce(IV) atom of which being coordinated with two anions of an organic oxyacid advantageously having a pKa greater than 1, preferably greater than 2, or a mixture of such oxyacids, and the oxidic oxygen atom or atoms of which being other than those comprising the organic oxyacids; representative such novel cerium (IV) oxidic compounds, whether yellow crystalline solids or yellow liquids, have the formula: $(H_2O)_p[CeO(A)_2{\cdot}(AH)_n{\cdot}]_m$ in which the radicals A, which may be the same or different, are each the residue of an organic oxyacid of formula AH, p is an integer ranging from 0 to 5, n ranges from 0 to 2 and m is an integer ranging from 1 to 12, see abstract, column 4 ,lines 9-68, examples and claims. Applicant's claims are deemed to be anticipated over Examples 23 and 24. Note that cerium octonate is taught in Example 23. Also note that and sodium 2-ethylhexonoate is taught as a reactant to make the corresponding cerium salt in example 24.

11. Claims 1-4, 7-8, 10-19, 22-23, and 25-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Brisset et al. U.S. Patent Number 4,568,360.

Brisset et al. teach a mixed organometallic composition suitable for use as fuel additives contains an organic acid salt of at least one metal from the

lanthanide group and of at least one metal selected from the group formed by manganese and the metals of the iron group wherein the ratio of total number of metal atoms to number of organic acid equivalents is greater then the stoichiometric proportion, and preferably greater than 2, see abstract, column 2 ,lines 22-30 and column 3, lines 12-23. Applicant's claims are deemed to be anticipated over Examples 1 and 6-7.

12. Claims 28-30 are rejected under 35 U.S.C. 103(a) as obvious over Hawkins et al. U.S. Patent Number 5,449,387 or Brisset et al. U.S. Patent Number 4,568,360.

Hawkins et al and Brisset et al have both been described above. Hawkins et al and Brisset et al can be said to differ from applicant's claimed invention in that there is not a direct teaching (i.e. by way of an example) to either: 1) adding the taught organic metallic salts to gasoline or 2) to where the added organic metallic salts are added at a concentration that is within applicant's claimed concentration range. It would have been obvious to one having ordinary skill in the art to use the broad disclosure of each patent as strong motivation to actually add the taught organic metallic salts to gasoline since such is directly suggested through each patent. It would also have been obvious to one having ordinary skill in the art to use the disclosures of each patent as motivation to actually add the taught organic metallic salts to a fuel oil product, e.g. gasoline, within applicant's claimed concentration range since such

concentration ranges are within/overlap the broad concentration ranges disclosed by each reference.

Prior-Art Cited But Not Applied

13. Any prior-art reference which is cited on FORM PTO-892 but not applied, is cited only to show the general state of the prior-art at the time of applicant's invention. Please note that the examiner has reviewed the International Search Report and the listed CN 1228802A reference which has WO 98/04655 as a French Language equilvent containing an English language abstract. CN 1228802A and/or WO 98/04655 are not being applied over applicant's claims because the examiner has deemed the above applied prior-art references to be at least as good if not better. Also note that the listed prior-art documents set forth in applicant's specification have been reviewed by the examiner and made of record on a PTO-892.

Examiner Information

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Joseph D. Anthony whose telephone number is (571) 272-1117. If attempts to reach the examiner are unsuccessful, the examiner's supervisor, Vasu Jagannathan, can be reached on (571) 272-1119. The centralized FAX machine number is (571) 273-8300. All other papers received by FAX will be treated as Official communications and cannot be immediately handled by the Examiner.

Joseph D. Anthony
Primary Patent Examiner
Art Unit 1714

12/11/05